

This document gives pertinent information concerning the reissuance of the VPDES Permit listed below. This permit is being processed as a **Minor, Municipal** permit. The discharge results from the operation of a 0.010 MGD wastewater treatment plant. The effluent limitations and special conditions contained in this permit will maintain the Water Quality Standards of 9 VAC 25-260-00 et seq.

1. Facility Name and Mailing Address: Twin Oaks Community STP
138 Twin Oaks Road
Louisa, VA 23093
Facility Location: State Route 697, 0.7 miles southwest of Yanceyville
Facility Contact Name: Jeffrey McCune Porter
SIC Code: 4952
County: Louisa
Telephone Number: 540-894-5126
2. Permit Number: VA0088421
Other VPDES Permits: None
Other Permits: None
E2/E3/E4 Status: N/A
Expiration Date: September 19, 2009
3. Owner Name: Twin Oaks Community
Owner Contact/Title: Jessica Little, President
Telephone Number: 540-894-5126
4. Application Complete Date: July 2, 2009
Permit Drafted By: Anna Westernnik
Date Drafted: July 30, 2009
Draft Permit Reviewed By: Alison Thompson
Date Reviewed: August 3, 2009
Public Comment Period: Start Date: September 18, 2009 End Date: October 19, 2009
5. Receiving Waters Information: See **Attachment 1** for the Flow Frequency Determination
Receiving Stream Name: Polecat Creek
Drainage Area at Outfall: 0.6 square miles
River Mile: 0.3
Stream Basin: York
Subbasin: N/A
Section: 3
Stream Class: III
Special Standards: None
Waterbody ID: VAN-F02R
7Q10 Low Flow: 0.004 MGD
7Q10 High Flow: 0.064 MGD
1Q10 Low Flow: 0.003 MGD
1Q10 High Flow: 0.05 MGD
30Q10 Low Flow: 0.009 MGD
30Q10 High Flow: 0.09 MGD
Harmonic Mean Flow: 0.07 MGD
30Q5 Flow: 0.016 MGD
303(d) Listed: Yes (*E. coli*)
Pamunkey River Basin (8/02/2006); Bacteriological TMDL for the Receiving Stream due by 2020
TMDL Approved: Yes
Date TMDL Approved:
6. Statutory or Regulatory Basis for Special Conditions and Effluent Limitations:

<ul style="list-style-type: none"> ✓ State Water Control Law ✓ Clean Water Act ✓ VPDES Permit Regulation ✓ EPA NPDES Regulation 	<ul style="list-style-type: none"> EPA Guidelines ✓ Water Quality Standards Other (<i>PES, Occoquan Policy, Dulles</i>)
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7. Licensed Operator Requirements: Class III
8. Reliability Class: Class II

9. Permit Characterization:

✓ Private	Effluent Limited	Possible Interstate Effect
Federal	✓ Water Quality Limited	Compliance Schedule Required
State	Toxics Monitoring Program Required	Interim Limits in Permit
POTW	Pretreatment Program Required	Interim Limits in Other Document
✓ TMDL		

10. Wastewater Sources and Treatment Description:

The Twin Oaks Community consists of a group of approximately 100 individuals living in dormitory-style housing. Industries present on site include hammock and casual furniture manufacturing, book indexing, and a tofu making businesses. All these activities result in low input to the STP. The design flow for the STP is 0.010 MGD. However, the average daily flow to the STP is normally 60% of the design flow.

The STP is an extended aeration system preceded by two septic tanks. These tanks are bypassed for clean out two times each year by a professional septic hauler. The influent flows from the tanks to a small bar screen and a pre-aeration area. The wastewater then flows to the two aeration basins, which are operated in series. The two aeration basins utilize coarse air diffusion. The flow then enters the secondary clarifier. Secondary effluent leaving the clarifier then flows through the V-Notch weir and subsequently enters the chlorine contact/post aeration tank. Dechlorination occurs in a tank a wooded area after the STP. Discharge is to Polecat Creek.

See **Attachment 2** for a facility schematic/diagram.

TABLE 1 OUTFALL DESCRIPTION				
Outfall Number	Discharge Sources	Treatment	Design Flow	Outfall Latitude and Longitude
001	Domestic Wastewater	See Item 10 above.	0.010 MGD	37° 55' 58" N 77° 59' 38" W
See Attachment 3 for Pendleton Virginia Topographic Map (151B).				

11. Sludge Treatment and Disposal Methods:

Wasted sludge is sent to a small aerobic digester. Wasted sludge from the storage area is pumped to one of three drying beds. When the sludge is dried, it is shoveled from the bed to a wheelbarrow and dry-stacked in a shed adjacent to the drying bed. The dried sludge product is contained by wooden barriers similar to those seen in a poultry composting operation or may be sent to the Louisa Regional WWTP. The finished sludge product in the shed is hauled by community residents to the Louisa County Landfill for disposal. Alternatively, liquid sludge may be hauled to the Louisa Regional WWTP for disposal.

12. Discharges, Intakes, Monitoring Stations, Other Items in Vicinity of Discharge:

TABLE 2 DISCHARGES IN WATERBODY VAN-F02R AND MONITORING STATION LOCATIONS		
Permit Number	Description	Latitude / Longitude
VAR051710	Industrial Storm Water Discharge for the Caroline Regional WWTP	37° 57' 40" N 77° 25' 09" W
VA0073504	Caroline Regional WWTP	37° 57' 40" N 77° 25' 09" W
VA0085871	Pilot Travel Center 291	37° 56' 15" N 77° 28' 00" W
VA0090930	Lake Caroline WTP	37° 59' 14" N 77° 30' 17" W
--	DEQ Ambient Monitoring Station 8-XIE000.40 (on receiving stream, upstream from Twin Oaks)	37° 55' 55.3" N 77° 59' 38" W
--	DEQ Ambient Monitoring Station XIE000.27 (On receiving stream at the Route 697 Bridge Crossing)	37° 56' 1.6" N 77° 59' 35" W

13. Material Storage:

TABLE 3 MATERIAL STORAGE		
Materials Description	Volume Stored	Spill/Stormwater Prevention Measures
12.5% Sodium Hypochlorite Solution	4 50-Gallon Drums	Secured on a pallet
Sodium Bisulfite Tablets	2 5-Gallon Containers	Stored in the vault with the tablet feeder

14. Site Inspection: Performed by Anna Westernik and Doug Frasier on May 6, 2009 (see **Attachment 4**).**15. Receiving Stream Water Quality and Water Quality Standards:****a. Ambient Water Quality Data**

There are two DEQ ambient monitoring stations located on the receiving stream for this facility. Station 8-XIE000.40 is located upstream from Outfall 001 and Station 8-XIE000.27 is located downstream of Outfall 001 at the Route 697 bridge crossing. This receiving stream is listed in the 2008 Integrated Assessment for an *E. coli* impairment, resulting in an impaired classification for the recreation use (See **Attachment 5** – Planning Statement).

b. Receiving Stream Water Quality Criteria

Part IX of 9 VAC 25-260 (360-550) designates classes and special standards applicable to defined Virginia river basins and sections. The receiving stream, Polecat Creek, is located within Section 3 of the York River Basin, and is a Class III water.

Class III waters must achieve dissolved oxygen (D.O.) of 4.0 mg/L or greater, a daily average D.O. of 5.0 mg/L or greater, a temperature that does not exceed 32°C, and maintain a pH of 6.0 – 9.0 standard units (S.U.) at all times.

Attachment 6 details other water quality criteria applicable to the receiving stream.

Ammonia:

Staff has re-evaluated the effluent data for pH for the June 1, 2008 through May 31, 2009 period (**Attachment 7**) and finds no significant differences from the data used to establish ammonia criteria and subsequent effluent limits in the previous permit reissuance. Therefore, the established pH and temperature values will be carried forward as part of this reissuance process (90th percentile pH of 7.9 S.U. and default temperature values of 25°C for high flow periods and 15°C for low flow periods).

Bacteria Criteria:

The Virginia Water Quality Standards (9 VAC 25-260-170 B.) states sewage discharges shall be disinfected to achieve the following criteria:

E. coli bacteria per 100 mL of water shall not exceed the following:

	Geometric Mean ¹	Single Sample Maximum
Freshwater <i>E. coli</i> (N/100 mL)	126	235

¹For two or more samples [taken during any calendar month]

c. Receiving Stream Special Standards

The State Water Control Board's Water Quality Standards, River Basin Section Tables (9 VAC 25-260-360, 370 and 380) designates the river basins, sections, classes and special standards for surface waters of the Commonwealth of Virginia. The receiving stream, Polecat Creek, is located within Section 3 of the York River Basin. This section has not been designated with a special standard.

d. Threatened or Endangered Species

The Virginia DGIF Fish and Wildlife Information System Database was searched for records to determine if there are threatened or endangered species in the vicinity of the discharge. The following threatened or endangered species were identified within a 2 mile radius of the discharge: Dwarf Wedgemussel, Upland Sandpiper, Loggerhead Shrike, Bald Eagle, Green Floater, and Migrant Loggerhead Shrike. The limits proposed in this draft permit are protective of the Virginia Water Quality Standards and therefore protect the threatened and endangered species found near the discharge.

16. Antidegradation (9 VAC 25-260-30):

All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

The receiving stream has been classified as Tier 1 based on an evaluation of the stream model that predicts the Water Quality Criteria of 5.0 mg/L for dissolved oxygen would be attained by only 0.7 mg/L during low flow conditions. Permit limits proposed have been established by determining wasteload allocations which will result in attaining and/or maintaining all water quality criteria which apply to the receiving stream, including narrative criteria. These wasteload allocations will provide for the protection and maintenance of all existing uses.

17. Effluent Screening, Wasteload Allocation, and Effluent Limitation Development:

To determine water quality-based effluent limitations for a discharge, the suitability of data must first be determined. Data is suitable for analysis if one or more representative data points are equal to or above the quantification level ("QL") and the data represent the exact pollutant being evaluated.

Next, the appropriate Water Quality Standards are determined for the pollutants in the effluent. Then, the Wasteload Allocations (WLAs) are calculated. The WLA values are then compared with available effluent data to determine the need for effluent limitations. Effluent limitations are needed if the 97th percentile of the daily effluent concentration values is greater than the acute wasteload allocation or if the 97th percentile of the four-day average effluent concentration values is greater than the chronic wasteload allocation. In the case of ammonia evaluations, limits are needed if the 97th percentile of the thirty-day average effluent concentration values is greater than the chronic WLA. Effluent limitations are the calculated on the most limiting WLA, the required sampling frequency and statistical characteristics of the effluent data.

a. Mixing Zones and Wasteload Allocations (WLAs)

Wasteload allocations (WLAs) are calculated for those parameters in the effluent with the reasonable potential to cause an exceedance of water quality criteria. The basic calculation for establishing a WLA is the steady state complete mix equation:

$$WLA = \frac{C_o [Q_e + (f)(Q_s)] - [(C_s)(f)(Q_s)]}{Q_e}$$

Where:	WLA	=	Wasteload allocation
	C _o	=	In-stream water quality criteria
	Q _e	=	Design flow
	f	=	Decimal fraction of critical flow from mixing evaluation
	Q _s	=	Critical receiving stream flow (1Q10 for acute aquatic life criteria; 7Q10 for chronic aquatic life criteria; harmonic mean for carcinogen-human health criteria; 30Q10 for ammonia criteria; and 30Q5 for non-carcinogen human health criteria)
	C _s	=	Mean background concentration of parameter in the receiving stream

The Water Quality Standards contain two distinct mixing zone requirements. The first requirement is general in nature and requires the "use of mixing zone concepts in evaluating permit limits for acute and chronic standards in 9 VAC 25-260-140.B". The second requirement is specific and establishes special restrictions for regulatory mixing zones "established by the Board".

The Department of Environmental Quality uses a simplified mixing model to estimate the amount of mixing of a discharge with the receiving stream within specified acute and chronic exposure periods. The simplified model contains the following assumptions and approximations:

- The effluent enters the stream from the bank, either via a pipe, channel or ditch.
- The effluent velocity isn't significantly greater (no more than 1 - 2 ft/sec greater) than the stream velocity.
- The receiving stream is much wider than its depth (width at least ten times the depth).
- Diffusive mixing in the longitudinal direction (lengthwise) is insignificant compared with advective transport (flow).
- Complete vertical mixing occurs instantaneously at the discharge point. This is assumed since the stream depth is much smaller than the stream width.
- Lateral mixing (across the width) is a linear function of distance downstream.
- The effluent is neutrally buoyant (e.g. the effluent discharge temperature and salinity are not significantly different from the stream's ambient temperature and salinity).
- Complete mix is determined as the point downstream where the variation in concentration is 20% or less across the width and depth of the stream.
- The velocity of passing and drifting organisms is assumed equal to the stream velocity.

If it is suitably demonstrated that a reasonable potential for lethality or chronic impacts within the physical mixing area doesn't exist, then the basic complete mix equation, with 100% of the applicable stream flow, is appropriate. If the mixing analysis determines there is a potential for lethality or chronic impacts within the physical mixing area, then the proportion of stream flow that has mixed with the effluent over the allowed exposure time is used in the basic complete mix equation. As such, the wasteload allocation equation is modified to account for the decimal fraction of critical flow (f).

Staff derived wasteload allocations where parameters are reasonably expected to be present in an effluent (e.g., total residual chlorine where chlorine is used as a means of disinfection) and where effluent data indicate the pollutant is present in the discharge above quantifiable levels. With regard to the Outfall 001 discharge, ammonia as N is likely present since this is a WWTP treating sewage and total residual chlorine may be present since chlorine is used for disinfection. As such, **Attachment 8** details the mixing analysis and **Attachment 6** details the WLA derivations for these pollutants.

b. Effluent Limitations, Outfall 001 – Toxic Pollutants

9 VAC 25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Those parameters with WLAs that are near effluent concentrations are evaluated for limits.

The VPDES Permit Regulation at 9 VAC 25-31-230.D. requires that monthly and weekly average limitations be imposed for continuous discharges from POTWs and monthly average and daily maximum limitations be imposed for all other continuous non-POTW discharges.

1) Ammonia as N:

Staff reevaluated pH data and has concluded it the same as that used previously to derive ammonia criteria. Staff used a pH data point of 7.9 S.U. to determine new ammonia water quality criteria, new wasteload allocations, and new ammonia limits (**Attachment 9**). DEQ guidance suggests using a sole data point of 9.0 mg/L for discharges containing domestic sewage to ensure the evaluation adequately addresses the potential for ammonia to be present in the discharge containing domestic sewage. Based on the current criteria, it was determined that ammonia limits are not needed. However, in accordance with the antibacksliding provisions of the Clean Water Act, the current ammonia limits of 5.4 mg/L for May – October and 10.4 mg/L for November through April will be retained from the previous permit reissuance.

2) Total Residual Chlorine (TRC):

Chlorine is used for disinfection and thus has the potential to be present in the discharge. Staff calculated WLAs for TRC using current critical flows and the mixing allowance. In accordance with current DEQ guidance, staff used a default data point of 0.2 mg/L and the calculated WLAs to derive limits. A monthly average of 0.014 mg/L and a weekly average limit of 0.016 mg/L are proposed for this discharge using the current criteria (see **Attachment 10**). However, in accordance with the antibacksliding provisions of the Clean Water Act, the current TRC limits of 0.010 mg/L monthly average and 0.012 mg/L weekly average will be retained from the previous permit reissuance.

c. Effluent Limitations and Monitoring, Outfall 001 – Conventional Pollutants

No changes to dissolved oxygen (D.O.), carbonaceous biochemical oxygen demand-5 day (cBOD₅), total suspended solids (TSS), and pH limitations are proposed. *E. coli* limitations have been added.

Dissolved Oxygen, cBOD₅, and TKN limitations are based on the stream modeling conducted in May 1994 for low flow conditions and May 1999 for high flow conditions (see **Attachment 11**) and are set to meet the water quality criteria for D.O. in the receiving stream.

The TSS limitations are based on the Secondary Treatment Regulation.

pH limitations are set at the water quality criteria.

E. coli limitations are in accordance with the Water Quality Standards at 9 VAC25-260-170.

d. Effluent Limitations and Monitoring Summary

The effluent limitations are presented in the following table. Limits were established for flow, pH, cBOD₅, Total Suspended Solids, Dissolved Oxygen, Ammonia as Nitrogen, *E. coli*, and Total Residual Chlorine. Temperature monitoring will be required.

The mass loading (kg/d), for monthly and weekly averages, were calculated by multiplying the concentration values (mg/L), with the flow values (in MGD) and a conversion factor of 3.785.

Sample Type and Frequency are in accordance with the recommendations in the VPDES Permit Manual.

The VPDES Permit Regulation at 9 VAC 25-31-30 and 40 CFR Part 133 require that the facility achieve at least 85% removal for cBOD₅ and TSS (or 65% for equivalent to secondary). Effluent limits in this permit are water-quality-based and result in greater than 85% removal.

18. Antibacksliding:

All limits in this permit are at least as stringent as those previously established. Backsliding does not apply to this reissuance.

19. Effluent Limitations/Monitoring Requirements:

Design flow is 0.010 MGD.

Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS			
		Monthly Average		Weekly Average		Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL		N/A		N/A	NL	1/M	Estimate
pH	3	N/A		N/A		6.0 S.U.	9.0 S.U.	1/D	Grab
cBOD ₅ (May – Oct)	3,5	20 mg/L	0.76kg/day	30mg/L	1.1 kg/day	N/A	N/A	1/M	Grab
cBOD ₅ (Nov – Apr)	3,5	25 mg/L	0.95 kg/day	38 mg/L	1.4kg/day	N/A	N/A	1/M	Grab
Total Suspended Solids (TSS)	1	30 mg/L	1.1 kg/day	45 mg/L	1.7 kg/day	N/A	N/A	1/M	Grab
DO	3	N/A		N/A		6.0 mg/L	N/A	1/D	Grab
Ammonia, as N (May – Oct)	3	5.4 mg/L		5.4 mg/L		N/A	N/A	1/M	Grab
Ammonia, as N (Nov – Apr)	3	10 mg/L		10 mg/L		N/A	N/A	1/M	Grab
<i>E. coli</i> (Geometric Mean)	3	126 n/100mL		N/A		N/A	N/A	2/M ^a	Grab
Total Residual Chlorine (after contact tank)	4	N/A		N/A		1.0 mg/L	N/A	1/D	Grab
Total Residual Chlorine (after dechlorination)	3	0.010 mg/L		0.012 mg/L		N/A	N/A	1/D	Grab

The basis for the limitations codes are:

- | | | |
|--|---|--------------------------------|
| 1. Federal Effluent Requirements | <i>MGD</i> = Million gallons per day. | <i>1/M</i> = Once every month. |
| 2. Best Professional Judgement | <i>N/A</i> = Not applicable. | <i>1/D</i> = Once every day. |
| 3. Water Quality Standards | <i>NL</i> = No limit; monitor and report. | <i>2/M</i> = See a. below. |
| 4. DEQ Disinfection Guidance | <i>S.U.</i> = Standard units. | |
| 5. Stream Model – Attachment 11 | | |

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

- a. The permittee shall collect two (2) samples, greater than seven (7) days apart, during one month within each quarterly monitoring period as defined in this paragraph. The results shall be reported as the geometric mean. Sampling shall be conducted during the calendar quarters (Jan - Mar, Apr - Jun, Jul - Sep, Oct - Nov). The results of quarterly sampling shall be received by DEQ-NRO with the DMR on April 10, July 10, October 10, and January 10.

20. Other Permit Requirements:

- a. Part I.B. of the permit contains additional chlorine monitoring requirements, quantification levels and compliance reporting instructions.

Minimum chlorine residual must be maintained at the exit of the chlorine contact tank to assure adequate disinfection. No more than three (3) of the monthly test results for TRC at the exit of the chlorine contact tank shall be < 1.0 mg/L with any TRC < 0.6 mg/L considered a system failure.

9 VAC 25-31-190.L.4.c. requires an arithmetic mean for measurement averaging and 9 VAC 25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Specific analytical methodologies for toxics are listed in this permit section as well as quantification levels (QLs) necessary to demonstrate compliance with applicable permit limitations or for use in future evaluations to determine if the pollutant has reasonable potential to cause or contribute to a violation. Required averaging methodologies are also specified.

21. Other Special Conditions:

- a. 95% Capacity Reopener. The VPDES Permit Regulation at 9 VAC 25-31-200.B.2. requires all POTWs and PVOTWs develop and submit a plan of action to DEQ when the monthly average influent flow to their sewage treatment plant reaches 95% or more of the design capacity authorized in the permit for each month of any three consecutive month period. The facility is a PVOTW.
- b. Indirect Dischargers. Required by VPDES Permit Regulation, 9 VAC 25-31-280 B.9 for POTWs and PVOTWs that receive waste from someone other than the owner of the treatment works.
- c. O&M Manual Requirement. Required by the Code of Virginia (§62.1-44.19); the Sewage Collection and Treatment Regulations (9 VAC 25-790), and the VPDES Permit Regulation (9 VAC 25-31-190.E). Within 90 days of the effective date of this permit, the permittee shall submit for approval an Operations and Maintenance (O&M) Manual or a statement confirming the accuracy and completeness of the current O&M Manual to the Department of Environmental Quality, Northern Regional Office (DEQ-NRO). Future changes to the facility must be addressed by the submittal of a revised O&M Manual within 90 days of the changes. Non-compliance with the O&M Manual shall be deemed a violation of the permit.
- d. CTC, CTO Requirement. The Code of Virginia (§ 62.1-44.19) and the Sewage Collection and Treatment Regulations (9 VAC 25-790) requires that all treatment works treating wastewater obtain a Certificate to Construct prior to commencing construction and to obtain a Certificate to Operate prior to commencing operation of the treatment works.
- e. Financial Assurance. Required by Code of Virginia (§62.1-44.18:3) and the Board's Financial Assurance Regulation (9 VAC 25-650-1, et seq.), which requires owners and operators of PVOTWs with a design flow > 0.005 MGD but < 0.040 MGD and treating sewage from private residences to submit a closure plan and maintain adequate financial assurance in the event the facility ceases operations. The permitted facility is a PVOTW with a design flow of 0.010 MGD and treats sewage generated from private residences.
- f. Licensed Operator Requirement. The Code of Virginia at §54.1-2300 et seq. and the VPDES Permit Regulation at 9 VAC 25-31-200 C, and Rules and Regulations for Waterworks and Wastewater Works Operators (18 VAC 160-20-10 et seq.) requires licensure of operators. This facility requires a Class III operator.
- g. Reliability Class. The Sewage Collection and Treatment Regulation at 9 VAC 25-790 requires sewerage works achieve a certain level of reliability in order to protect water quality and public health consequences in the event of component or system failure. The facility is required to meet reliability Class II.
- h. Sludge Reopener. The VPDES Permit Regulation at 9 VAC 25-31-200.C.4. requires all permits issued to treatment works treating domestic sewage (including sludge-only facilities) include a reopener clause allowing incorporation of any applicable standard for sewage sludge use or disposal promulgated under Section 405(d) of the CWA. The facility includes a sewage treatment works.

- i. Sludge Use and Disposal. The VPDES Permit Regulation at 9 VAC 25-31-100.P., 220.B.2., and 420-720 and 40 CFR Part 503 require all treatment works treating domestic sewage to submit information on their sludge use and disposal practices and to meet specified standards for sludge use and disposal. The facility includes a treatment works treating domestic sewage.
 - j. Treatment Works Closure Plan. The State Water Control Law §62.1-44.15:1.1, makes it illegal for an owner to cease operation and fail to implement a closure plan when failure to implement the plan would result in harm to human health or the environment. This condition is used to notify the owner of the need for a closure plan where a facility is being replaced or is expected to close.
 - k. TMDL Reopener. This special condition is to allow the permit to be reopened if necessary to bring it into compliance with any applicable TMDL that may be developed and approved for the receiving stream.
22. Permit Section Part II. Part II of the permit contains standard conditions that appear in all VPDES Permits. In general, these standard conditions address the responsibilities of the permittee, reporting requirements, testing procedures and records retention.

23. **Changes to the Permit from the Previously Issued Permit:**

- a. Special Conditions:
 - 1. The TMDL Reopener special condition has been added.
 - 2. The CTC, CTO Requirement has been added.
- b. Monitoring and Effluent Limitations:
 - 1. The 1Q10 Flow in the receiving stream has been changed from 0.004 MGD to 0.003 MGD based on revised stream flow data from the Contrary Creek Ambient Monitoring Station #01670300.
 - 2. The 7Q10 Flow in the receiving stream has been changed from 0.003 MGD to 0.004 MGD based on revised stream flow data from the Contrary Creek Ambient Monitoring Station #01670300.
 - 3. The high flow 30Q10 flow value was used to calculate high flow ammonia limits.
 - 4. In accordance with the significant figures guidance, the ammonia limits for November to April have been changed from 10.4 mg/L to 10 mg/L.
 - 5. Due to the presence of the Pamunkey River TMDL for *E. coli*, monitoring for *E. coli* will be conducted twice per month each quarter.
 - 6. The minimum chlorine residual after the chlorine contact tank has been changed from 1.5 mg/L to 1.0 mg/L due to the absence of public water supplies within 15 miles downstream.
 - 7. The requirement for temperature monitoring has been eliminated.

24. **Variances/Alternate Limits or Conditions:** None

25. **Public Notice Information:**

First Public Notice Date: September 17, 2009 Second Public Notice Date: September 24, 2009

Public Notice Information is required by 9 VAC 25-31-280 B. All pertinent information is on file and may be inspected and copied by contacting the: DEQ Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193, Telephone No. (703) 583-3837, anna.westernik@deq.virginia.gov. See **Attachment 12** for a copy of the public notice document.

Persons may comment in writing or by email to the DEQ on the proposed permit action, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing if public response is significant. Requests for public hearings shall state the reason why a hearing is requested, the nature of the issues proposed to be raised in the public hearing and a brief explanation of how the requester's interests would be directly and adversely affected by the proposed permit action. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given.

26. 303 (d) Listed Stream Segments and Total Max. Daily Loads (TMDL):

A bacteria TMDL has been completed for downstream segments of the South Anna River that were included in the Pamunkey River Basin Bacteria TMDL that was approved by EPA on August 2, 2006. This TMDL included Outfall 001 of the Twin Oaks Community STP since it is an upstream discharger. The WLA assigned to this facility was 1.70E+10 cfu/year of *E. coli* bacteria.

The receiving stream, Polecat Creek, is listed in the 2008 Integrated Assessment for an *E. coli* impairment, resulting in an impaired classification for the recreation use. The TMDL is due by 2020.

27. Additional Comments:

Previous Board Action(s): Twin Oaks was referred to enforcement on June 11, 2004 for its late submission of their permit renewal application and late/incomplete submission of two discharge monitoring reports. DEQ assisted Twin Oaks in resolving the permit application issues with the reissued permit requiring Twin Oaks to hire a licensed operator in anticipation that it should help in resolving the late submittal of documents. The order required increased monitoring frequency for selected parameters, development of a plan to ensure compliance submittals were handled in a timely matter, submittal of a revised Operations and Maintenance Manual and Sludge Management Plan, submittal of an annual Sludge Management Report, and contracting a Class III licensed operator. The order was deferred on January 10, 2006 and cancelled on February 9, 2006.

Public Comment: No comments were received during the public notice period.

EPA Checklist: The checklist can be found in **Attachment 13**.

Attachments

Attachment 1	Flow Frequency Determination
Attachment 2	Line Diagram of the STP
Attachment 3	Topographic Map – Pendleton, VA
Attachment 4	May 6, 2009 Site Inspection
Attachment 5	Planning Statement
Attachment 6	Water Quality Criteria and WLAs
Attachment 7	pH Data for the June 1, 2008 -- May 31, 2009 Period
Attachment 8	Mixing Analysis
Attachment 9	Determination of Ammonia Limits
Attachment 10	Determination of TRC Limits
Attachment 11	Stream Models for the cBOD ₅ and DO Limits
Attachment 12	Public Notice
Attachment 13	EPA Checklist

Flow Frequency Determination
Anna T. Westernik – NRO Water Permit Writer
July 8, 2009

Twin Oaks Community STP
VA0088421

This flow frequency determination was done as part of the reissuance of the Twin Oaks Community STP VPDES permit in 2004. Paul Herman last did the flow determination in 1999. See the February 4, 1999 memo attached to this memo. Mr. Herman used drainage area proportions to determine the flows at the discharge point. The same approach was used for this determination. Flow data from the 1976 – 1986 period was verified using the gaging station on Contrary Creek near Mineral, VA (#01670300) as the reference station. The values presented at the discharge point do not address any withdrawals, discharges, or springs lying upstream.

Contrary Creek near Mineral, VA (#01670300):

Drainage Area = 5.53 sq. mi.	
1Q10 = 0.04 cfs	High Flow 7Q10 = 0.83 cfs
7Q10 = 0.05 cfs	High Flow 1Q10 = 0.64 cfs
30Q10 = 0.12 cfs	High Flow 30Q10 = 1.2 cfs
30Q5 = 0.21 cfs	Harmonic Mean = 0.9 cfs

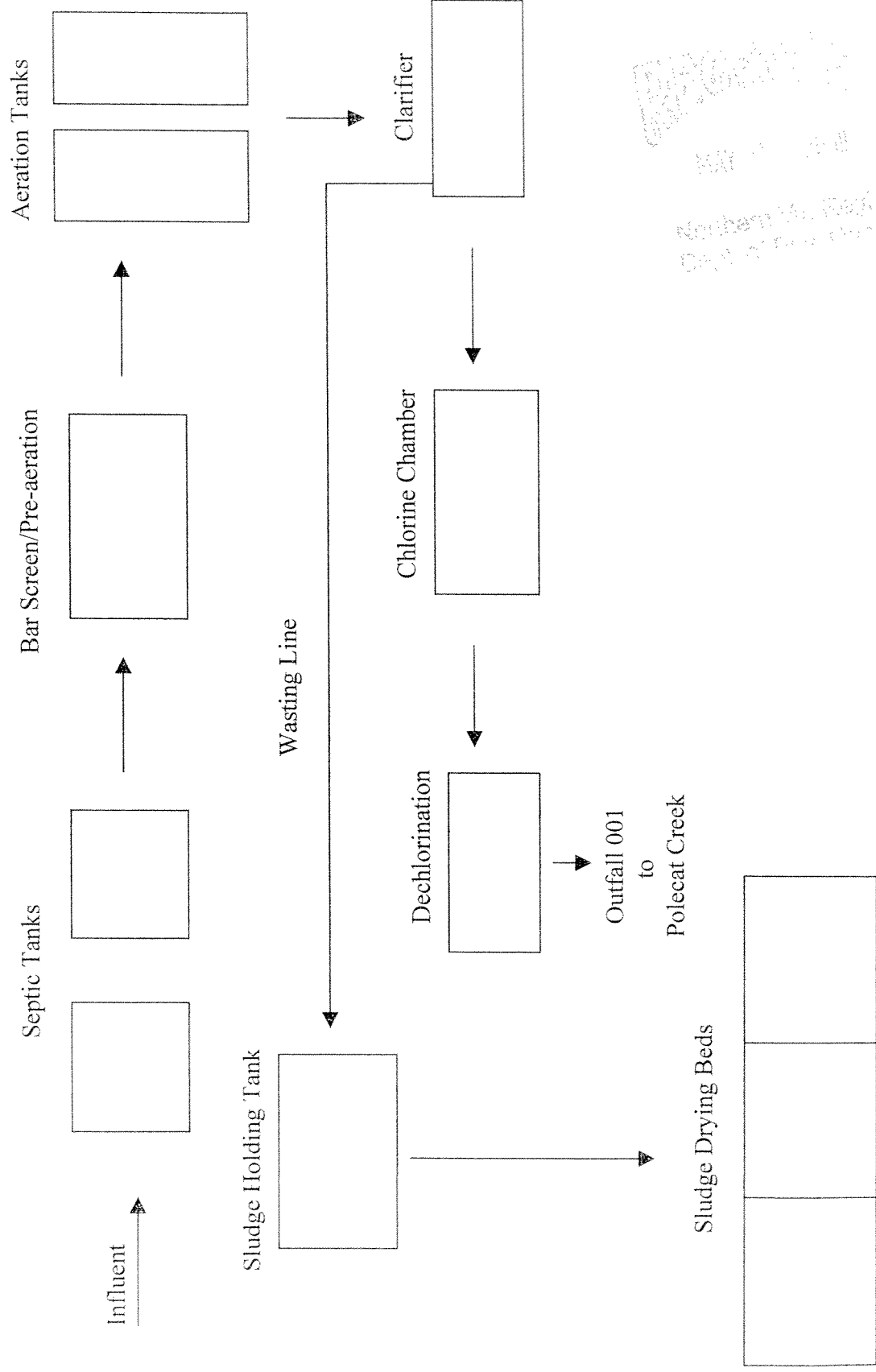
UT, Polecat Creek at discharge point:

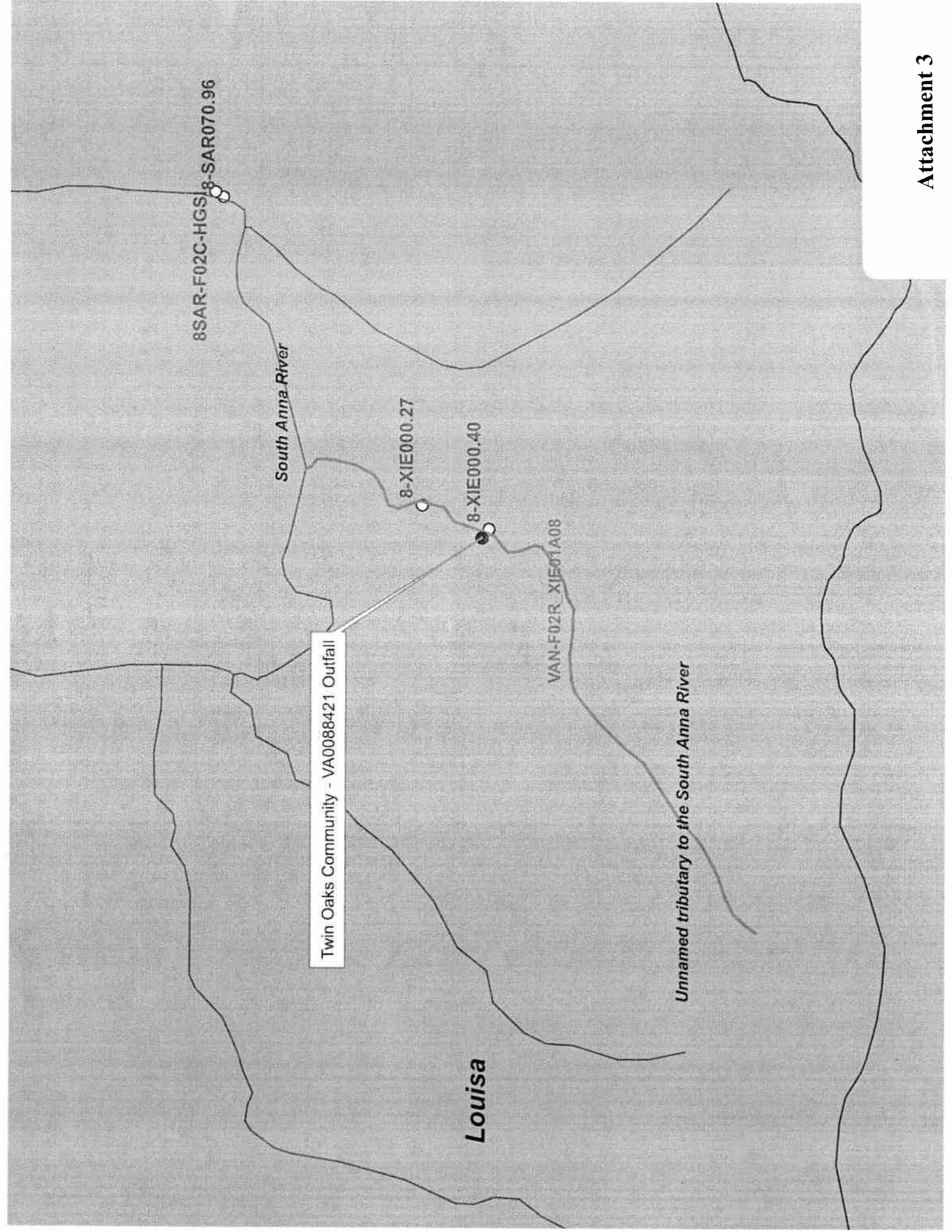
Drainage Area = 0.67 sq. mi.	
1Q10 = 0.005 cfs	1Q10 = 0.003 mgd
7Q10 = 0.006 cfs	7Q10 = 0.004 mgd
30Q5 = 0.025 cfs	30Q5 = 0.016 mgd
30Q10 = 0.014 cfs	30Q10 = 0.009 mgd
High Flow 7Q10 = 0.10 cfs	High Flow 7Q10 = 0.064 mgd
High Flow 1Q10 = 0.078 cfs	High Flow 1Q10 = 0.05 mgd
High Flow 30Q10 = 0.14 cfs	High Flow 30Q10 = 0.09 mgd
Harmonic Mean = 0.11 cfs	Harmonic Mean = 0.07 mgd

High flow months are November through April.

Flow Diagram of Twin Oaks Community STP

VA0088421





May 7, 2009

MEMORANDUM

To: File

From: Anna Westernik

Subject: May 6, 2009 Site Visit to the Twin Oaks Community Sewage Treatment Plant (STP)
(VA0088421)

A site visit was made to the Twin Oaks Community STP on May 6, 2009 in Louisa, Virginia prior to permit reissuance. Persons present during the visit were McCune Porter from Twin Oaks and Doug Frasier and myself from DEQ.

The Twin Oaks Community consists of a group of approximately 100 individuals living in dormitory-style housing. Industries present on site include a hammock and casual furniture book indexing, and tofu making businesses. All these activities result in low input to the STP. The design flow for the STP is 0.010 MGD. However, the average daily flow to the STP during the last four months was 0.0060 MGD.

The STP is an extended aeration system preceded by two septic tanks. These tanks are bypassed for clean out two times each year by a professional septic hauler. The influent flows from the tanks to a small bar screen and a pre-aeration area. The wastewater then flows to the two aeration basins, which are operated in series. The two aeration basins utilize coarse air diffusion. The flow then enters the secondary clarifier, secondary effluent then flows through the V-Notch weir, and subsequently enters the chlorine contact/post aeration tank. Dechlorination occurs in a tank a wooded area after the STP. Discharge is to Polecat Creek. The area above and below the discharge appear to be in satisfactory condition.

Returned activated sludge is returned to the head of the plant. Wasted sludge is sent to a small aerobic digester. Wasted sludge from the storage area is pumped to one of three drying beds. When the sludge is dried, it is shoveled from the bed to a wheelbarrow and dry-stacked in a shed adjacent to the drying bed. The dried sludge product is contained by wooden barriers similar to those seen in a poultry composting operation. The finished sludge product in the shed will be hauled to the Louisa County Landfill for disposal by community residents.

Chemical storage at this facility is minimal. Chlorine is stored on a pallet near the sludge drying beds. It is pumped to a drum seated in a secondary containment unit near the laboratory building from where is sent in a metered dose to the STP. All chlorine and dechlorination tablets are stored in their original buckets on the concrete floor of the laboratory, which has no floor drain.

To: Anna Westernik
From: Katie Conaway

Date: September 4, 2009
Subject: REVISED Planning Statement for the Twin Oaks Community STP
Permit Number: VA0088421

Discharge Type: Municipal
Discharge Flow: 0.01 MGD

Receiving Stream: Polecat Creek (*The 2008 Assessment lists the receiving stream as an Unnamed Tributary to the South Anna River (Stream Code XIE)*).
Latitude / Longitude: 37.9322 / 77.99417
Waterbody ID: F02, YO04

1. Is there monitoring data for the receiving stream?

Yes.

- If yes, please attach latest summary.

There are two DEQ monitoring stations on the Unnamed Tributary to the South Anna River (XIE): Station 8-XIE000.40, located upstream from the Outfall of VA0088421 and Station 8-XIE000.27, located at the Route 697 bridge crossing. The Unnamed Tributary to the South Anna River (XIE) is listed in the 2008 Integrated Assessment as segment VAN-F02R_XIE01A08, which extends from the headwaters downstream to confluence with the South Anna River. The following is the monitoring summary for VAN-F02R_XIE01A08 as taken from the 2008 Integrated Assessment:

Class III, Section 3.

DEQ ambient water quality monitoring stations 8-XIE000.27, upstream from Route 697, and 8-XIE000.40, upstream of the Twin Oaks STP.

E. coli monitoring finds a bacterial impairment, resulting in an impaired classification for the recreation use. The aquatic life and wildlife uses are considered fully supporting. The fish consumption use was not assessed.

- If no, where is the nearest downstream monitoring station.

N/A

2. Is the receiving stream on the current 303(d) list?

Yes.

- If yes, what is the impairment?

Recreational Use Impairment: Sufficient excursions from the maximum *E. coli* bacteria criterion (4 of 4 samples - 100%) were recorded at DEQ's ambient water quality monitoring station (8-XIE000.27) upstream of the Route 697 crossing and (4 of 4 samples - 100%) were recorded at DEQ's ambient water quality monitoring station (8-XIE000.40) upstream of the Twin Oaks STP to assess this stream segment as not supporting of the recreation use goal for the 2008 water quality assessment.

- Has the TMDL been prepared?

No. However a bacteria TMDL has been completed for downstream segments of the South Anna River that were included in the Pamunkey River Basin Bacteria TMDL (EPA Approved 08/02/2006).

- If yes, what is the WLA for the discharge?

The Pamunkey River Basin TMDL included all upstream point source dischargers, including VA0088421. The WLA assigned to this facility was **1.70E+10 cfu/year of *E. coli* bacteria.**

- If no, what is the schedule for the TMDL?

The TMDL for the Unnamed Tributary to the South Anna River (XIE) is due by 2020; however, with the expected approval of the 2010 Assessment Guidance, a TMDL will not be required for this segment because it is "nested" within a completed bacteria TMDL. The bacteria sources in this impaired segment were already taken into account during the development of the Pamunkey River Basin Bacteria TMDL.

3. If the answer to (2) above is no, is there a downstream 303(d) listed impairment?

N/A

- If yes, what is the impairment?

N/A

- Has a TMDL been prepared?

N/A

- Will the TMDL include the receiving stream?

N/A

- Is there a WLA for the discharge?

N/A

- What is the schedule for the TMDL?

N/A

4. Is there monitoring or other conditions that Planning/Assessment needs in the permit?

Not at this time.

5. Could you please calculate the drainage area at the outfall?

The drainage area at the outfall is approximately 386 acres (0.6 mi²).

FRESHWATER WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: Twin Oaks STP
Receiving Stream: Polecat Creek

Permit No.: VA0088421

Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information				Stream Flows				Mixing Information				Effluent Information			
Mean Hardness (as CaCO ₃) =		mg/L	1Q10 (Annual) =	0.004	MGD	Annual - 1Q10 Mix =	100 %	Mean Hardness (as CaCO ₃) =	80 mg/L			90% Temp (Annual) =	25 deg C		
90% Temperature (Annual) =		deg C	7Q10 (Annual) =	0.003	MGD	- 7Q10 Mix =	100 %	90% Temp (Wet season) =	7.9 SU			90% Maximum pH =	7.9 SU		
90% Temperature (Wet season) =		deg C	30Q10 (Annual) =	0.009	MGD	- 30Q10 Mix =	100 %	90% Maximum pH =	7 SU			10% Maximum pH =	7 SU		
90% Maximum pH =		SU	1Q10 (Wet season) =	0.05	MGD	- 1Q10 Mix =	100 %	10% Maximum pH =	0.01 MGD			Discharge Flow =			
10% Maximum pH =		SU	30Q10 (Wet season) =	0.09	MGD	- 30Q10 Mix =	100 %								
Tier Designation (1 or 2) =	1		30Q5 =	0.016	MGD										
Public Water Supply (PWS) Y/N? =	n		Harmonic Mean =	0.07	MGD										
Trout Present Y/N? =	n		Annual Average =	0	MGD										
Early Life Stages Present Y/N? =	y														

Parameter (μ g/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Acenaphthene	0	---	---	na	2.7E+03	---	---	na	7.0E+03	---	---	---	---	---	---	---	---	---	---	---	---
Acrolein	0	---	---	na	7.8E+02	---	---	na	2.0E+03	---	---	---	---	---	---	---	---	---	---	---	---
Acrylonitrile ^c	0	---	---	na	6.6E+00	---	---	na	5.3E+01	---	---	---	---	---	---	---	---	---	---	---	---
Aldrin ^c	0	3.0E+00	---	na	1.4E-03	4.2E+00	---	na	1.1E-02	---	---	---	---	---	---	---	---	4.2E+00	---	na	1.1E-02
Ammonia N (mg/l)	0	5.84E+01	7.09E+00	na	---	8.2E+01	1.3E+01	na	---	---	---	---	---	---	---	---	---	8.2E+01	1.3E+01	na	---
Ammonia N (mg/l) (High Flow)	0	5.84E+01	7.09E+00	na	---	3.5E+02	7.1E+01	na	---	---	---	---	---	---	---	---	---	3.5E+02	7.1E+01	na	---
Anthracene	0	---	---	na	1.1E+05	---	---	na	2.9E+05	---	---	---	---	---	---	---	---	---	---	---	---
Antimony	0	---	---	na	4.3E+03	---	---	na	1.1E+04	---	---	---	---	---	---	---	---	4.8E+02	2.0E+02	na	---
Arsenic	0	3.4E+02	1.5E+02	na	---	4.8E+02	2.0E+02	na	---	---	---	---	---	---	---	---	---	---	---	---	---
Barium	0	---	---	na	---	---	---	na	---	---	---	---	---	---	---	---	---	---	---	---	---
Benzene ^c	0	---	---	na	7.1E+02	---	---	na	5.7E+03	---	---	---	---	---	---	---	---	---	---	---	---
Benzidine ^c	0	---	---	na	5.4E-03	---	---	na	4.3E-02	---	---	---	---	---	---	---	---	---	---	---	---
Benzo (a) anthracene ^c	0	---	---	na	4.9E-01	---	---	na	3.9E+00	---	---	---	---	---	---	---	---	---	---	---	---
Benzo (b) fluoranthene ^c	0	---	---	na	4.9E-01	---	---	na	3.9E+00	---	---	---	---	---	---	---	---	---	---	---	---
Benzo (k) fluoranthene ^c	0	---	---	na	4.9E-01	---	---	na	3.9E+00	---	---	---	---	---	---	---	---	---	---	---	---
Benzo (a) pyrene ^c	0	---	---	na	4.9E-01	---	---	na	3.9E+00	---	---	---	---	---	---	---	---	---	---	---	---
Bis(2-Chloroethyl) Ether	0	---	---	na	1.4E+01	---	---	na	3.6E+01	---	---	---	---	---	---	---	---	---	---	---	---
Bis(2-Chloroisopropyl) Ether	0	---	---	na	1.7E+05	---	---	na	4.4E+05	---	---	---	---	---	---	---	---	---	---	---	---
Bromoforn ^c	0	---	---	na	3.6E+03	---	---	na	2.9E+04	---	---	---	---	---	---	---	---	---	---	---	---
Butylbenzylphthalate	0	---	---	na	5.2E+03	---	---	na	1.4E+04	---	---	---	---	---	---	---	---	---	---	---	---
Cadmium	0	2.1E+00	7.7E-01	na	---	2.9E+00	1.0E+00	na	---	---	---	---	---	---	---	---	---	2.9E+00	1.0E+00	na	---
Carbon Tetrachloride ^c	0	---	---	na	4.4E+01	---	---	na	3.5E+02	---	---	---	---	---	---	---	---	---	---	---	---
Chlordane ^c	0	2.4E+00	4.3E-03	na	2.2E-02	3.4E+00	5.6E-03	na	1.9E-01	---	---	---	---	---	---	---	---	3.4E+00	5.6E-03	na	1.8E-01
Chloride	0	8.6E+05	2.3E+05	na	---	1.2E+06	3.0E+05	na	---	---	---	---	---	---	---	---	---	1.2E+06	3.0E+05	na	---
TRC	0	1.9E+01	1.1E+01	na	---	2.7E+01	1.4E+01	na	---	---	---	---	---	---	---	---	---	2.7E+01	1.4E+01	na	---
Chlorobenzene	0	---	---	na	2.1E+04	---	---	na	5.5E+04	---	---	---	---	---	---	---	---	---	---	---	5.5E+04

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
		Acute	Chronic	HH (PWS)	HH	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	HH
Chlorodibromomethane ^c	0	--	--	na	3.4E+02	--	--	na	2.7E+03	--	--	--	--	--	na	2.7E+03
Chloroform ^c	0	--	--	na	2.9E+04	--	--	na	2.3E+05	--	--	--	--	--	na	2.3E+05
2-Chloronaphthalene	0	--	--	na	4.3E+03	--	--	na	1.1E+04	--	--	--	--	--	na	1.1E+04
2-Chlorophenol	0	--	--	na	4.0E+02	--	--	na	1.0E+03	--	--	--	--	--	na	1.0E+03
Chlorpyrifos	0	8.3E-02	4.1E-02	na	--	1.2E-01	5.3E-02	na	--	--	--	--	--	--	na	--
Chromium III	0	3.6E+02	5.0E+01	na	--	5.0E+02	6.5E+01	na	--	--	--	--	--	--	na	--
Chromium VI	0	1.6E+01	1.1E+01	na	--	2.2E+01	1.4E+01	na	--	--	--	--	--	--	na	--
Chromium, Total	0	--	--	na	--	--	--	na	--	--	--	--	--	--	na	--
Chrysene ^c	0	--	--	na	4.9E-01	--	--	na	3.9E+00	--	--	--	--	--	na	3.9E+00
Copper	0	7.9E+00	5.9E+00	na	--	1.1E+01	7.7E+00	na	--	--	--	--	--	--	na	--
Cyano	0	2.2E+01	5.2E+00	na	2.2E+05	3.1E+01	6.8E+00	na	5.6E+05	--	--	--	--	--	na	5.6E+05
DDO ^c	0	--	--	na	8.4E-03	--	--	na	6.7E-02	--	--	--	--	--	na	6.7E-02
DDT ^c	0	--	--	na	5.9E-03	--	--	na	4.7E-02	--	--	--	--	--	na	4.7E-02
DDT ^c	0	1.1E+00	1.0E-03	na	5.9E-03	1.5E+00	1.3E-03	na	4.7E-02	--	--	--	--	--	na	4.7E-02
Demeton	0	--	1.0E-01	na	--	--	1.3E-01	na	--	--	--	--	--	--	na	--
Dibenz(a,h)anthracene ^c	0	--	--	na	4.9E-01	--	--	na	3.9E+00	--	--	--	--	--	na	3.9E+00
Dibutyl phthalate	0	--	--	na	1.2E+04	--	--	na	3.1E+04	--	--	--	--	--	na	3.1E+04
Dichloromethane	0	--	--	na	1.6E+04	--	--	na	1.3E+05	--	--	--	--	--	na	1.3E+05
(Methylene Chloride) ^c	0	--	--	na	1.7E+04	--	--	na	4.4E+04	--	--	--	--	--	na	4.4E+04
1,2-Dichlorobenzene	0	--	--	na	1.7E+04	--	--	na	6.8E+03	--	--	--	--	--	na	6.8E+03
1,3-Dichlorobenzene	0	--	--	na	2.6E+03	--	--	na	6.8E+03	--	--	--	--	--	na	6.8E+03
1,4-Dichlorobenzene	0	--	--	na	2.6E+03	--	--	na	6.8E+03	--	--	--	--	--	na	6.8E+03
3,3-Dichlorobenzidine ^c	0	--	--	na	7.7E-01	--	--	na	6.2E+00	--	--	--	--	--	na	6.2E+00
Dichlorobromomethane ^c	0	--	--	na	4.6E+02	--	--	na	3.7E+03	--	--	--	--	--	na	3.7E+03
1,2-Dichloroethane ^c	0	--	--	na	9.9E+02	--	--	na	7.9E+03	--	--	--	--	--	na	7.9E+03
1,1-Dichloroethylene	0	--	--	na	1.7E+04	--	--	na	4.4E+04	--	--	--	--	--	na	4.4E+04
1,2-trans-dichloroethylene	0	--	--	na	1.4E+05	--	--	na	3.6E+05	--	--	--	--	--	na	3.6E+05
2,4-Dichlorophenoxy acetic acid (2,4-D)	0	--	--	na	7.9E+02	--	--	na	2.1E+03	--	--	--	--	--	na	2.1E+03
2,4-Dichlorophenoxy	0	--	--	na	--	--	--	na	--	--	--	--	--	--	na	--
1,2-Dichloropropane ^c	0	--	--	na	3.9E+02	--	--	na	3.1E+03	--	--	--	--	--	na	3.1E+03
1,3-Dichloropropene	0	--	--	na	1.7E+03	--	--	na	4.4E+03	--	--	--	--	--	na	4.4E+03
Dieldrin ^c	0	2.4E-01	5.6E-02	na	1.4E-03	3.4E-01	7.3E-02	na	1.1E-02	--	--	--	--	--	na	1.1E-02
Diethyl Phthalate	0	--	--	na	1.2E+05	--	--	na	3.1E+05	--	--	--	--	--	na	3.1E+05
Di-2-Ethylhexyl Phthalate ^c	0	--	--	na	5.9E+01	--	--	na	4.7E+02	--	--	--	--	--	na	4.7E+02
2,4-Dimethylphenol	0	--	--	na	2.3E+03	--	--	na	6.0E+03	--	--	--	--	--	na	6.0E+03
Dimethyl Phthalate	0	--	--	na	2.9E+06	--	--	na	7.5E+06	--	--	--	--	--	na	7.5E+06
Di-n-Butyl Phthalate	0	--	--	na	1.2E+04	--	--	na	3.1E+04	--	--	--	--	--	na	3.1E+04
2,4-Dinitrophenol	0	--	--	na	1.4E+04	--	--	na	3.6E+04	--	--	--	--	--	na	3.6E+04
2-Methyl-4-6 Dinitrophenol	0	--	--	na	7.65E+02	--	--	na	2.0E+03	--	--	--	--	--	na	2.0E+03
2,4-Dinitrotoluene ^c	0	--	--	na	9.1E+01	--	--	na	7.3E+02	--	--	--	--	--	na	7.3E+02
Dioxin (2,3,7,8-tetrachlorodibenzo-p-dioxin) (ppq)	0	--	--	na	1.2E-06	--	--	na	na	--	--	--	--	--	na	na
1,2-Diphenylhydrazine ^c	0	--	--	na	5.4E+00	--	--	na	4.3E+01	--	--	--	--	--	na	4.3E+01
Alpha Endosulfan	0	2.2E-01	5.6E-02	na	2.4E+02	3.1E-01	7.3E-02	na	6.2E+02	--	--	--	--	--	na	6.2E+02
Beta Endosulfan	0	2.2E-01	5.6E-02	na	2.4E+02	3.1E-01	7.3E-02	na	6.2E+02	--	--	--	--	--	na	6.2E+02
Endosulfan Sulfate	0	--	--	na	2.4E+02	--	--	na	6.2E+02	--	--	--	--	--	na	6.2E+02
Endrin	0	8.6E-02	3.6E-02	na	8.1E-01	1.2E-01	4.7E-02	na	2.1E+00	--	--	--	--	--	na	2.1E+00
Endrin Aldehyde	0	--	--	na	8.1E-01	--	--	na	2.1E+00	--	--	--	--	--	na	2.1E+00

Parameter (µg/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Ethylbenzene	0	--	--	na	2.9E+04	--	--	na	7.5E+04	--	--	--	--	--	--	--	na	--	--	na	7.5E+04
Fluoranthene	0	--	--	na	3.7E+02	--	--	na	9.6E+02	--	--	--	--	--	--	--	na	--	--	na	9.6E+02
Fluorene	0	--	--	na	1.4E+04	--	--	na	3.6E+04	--	--	--	--	--	--	--	na	--	--	na	3.6E+04
Foaming Agents	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	na	--	--	na	--
Guthion	0	--	1.0E-02	na	--	--	1.3E-02	na	--	--	--	--	--	--	--	--	na	--	1.3E-02	na	--
Heptachlor ^c	0	5.2E-01	3.8E-03	na	2.1E-03	7.3E-01	4.9E-03	na	1.7E-02	--	--	--	--	--	--	--	na	7.3E-01	4.9E-03	na	1.7E-02
Heptachlor Epoxide ^c	0	5.2E-01	3.8E-03	na	1.1E-03	7.3E-01	4.9E-03	na	8.9E-03	--	--	--	--	--	--	--	na	7.3E-01	4.9E-03	na	8.9E-03
Hexachlorobenzene ^c	0	--	--	na	7.7E-03	--	--	na	6.2E-02	--	--	--	--	--	--	--	na	--	--	na	6.2E-02
Hexachlorobutadiene ^c	0	--	--	na	5.0E+02	--	--	na	4.0E+03	--	--	--	--	--	--	--	na	--	--	na	4.0E+03
Hexachlorocyclohexane	0	--	--	na	1.3E-01	--	--	na	1.0E+00	--	--	--	--	--	--	--	na	--	--	na	1.0E+00
Hexachlorocyclohexane Beta BHC ^c	0	--	--	na	4.6E-01	--	--	na	3.7E+00	--	--	--	--	--	--	--	na	--	--	na	3.7E+00
Hexachlorocyclohexane Gamma BHC ^c (lindane)	0	9.5E-01	na	na	6.3E-01	1.3E+00	--	na	5.0E+00	--	--	--	--	--	--	--	na	1.3E+00	--	na	5.0E+00
Hexachlorocyclopentadiene	0	--	--	na	1.7E+04	--	--	na	4.4E+04	--	--	--	--	--	--	--	na	--	--	na	4.4E+04
Hexachloroethane ^c	0	--	--	na	8.9E+01	--	--	na	7.1E+02	--	--	--	--	--	--	--	na	--	--	na	7.1E+02
Hydrogen Sulfide	0	--	2.0E+00	na	--	--	2.6E+00	na	--	--	--	--	--	--	--	--	na	--	2.6E+00	na	--
Indeno (1,2,3-cd) pyrene ^c	0	--	--	na	4.9E-01	--	--	na	3.9E+00	--	--	--	--	--	--	--	na	--	--	na	3.9E+00
Iron	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	na	--	--	na	--
Isophorone ^c	0	--	--	na	2.6E+04	--	0.0E+00	na	2.1E+05	--	--	--	--	--	--	--	na	--	0.0E+00	na	--
Koprene	0	--	0.0E+00	na	--	--	--	na	--	--	--	--	--	--	--	--	na	--	--	na	--
Lead	0	5.8E+01	7.3E+00	na	--	8.2E+01	9.5E+00	na	--	--	--	--	--	--	--	--	na	8.2E+01	9.5E+00	na	--
Malathion	0	--	1.0E-01	na	--	--	1.3E-01	na	--	--	--	--	--	--	--	--	na	--	1.3E-01	na	--
Manganese	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	na	--	--	na	--
Mercury	0	1.4E+00	7.7E-01	na	5.1E-02	2.0E+00	1.0E+00	na	1.3E-01	--	--	--	--	--	--	--	na	2.0E+00	1.0E+00	na	1.3E-01
Methyl Bromide	0	--	--	na	4.0E+03	--	--	na	1.0E+04	--	--	--	--	--	--	--	na	--	--	na	1.0E+04
Methoxychlor	0	--	3.0E-02	na	--	--	3.9E-02	na	--	--	--	--	--	--	--	--	na	--	3.9E-02	na	--
Mirex	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	na	--	0.0E+00	na	--
Monochlorobenzene	0	--	--	na	2.1E+04	--	--	na	5.5E+04	--	--	--	--	--	--	--	na	--	--	na	5.5E+04
Nickel	0	1.1E+02	1.3E+01	na	4.6E+03	1.6E+02	1.7E+01	na	1.2E+04	--	--	--	--	--	--	--	na	1.6E+02	1.7E+01	na	1.2E+04
Nitrate (as N)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	na	--	--	na	--
Nitrobenzene	0	--	--	na	1.9E+03	--	--	na	4.9E+03	--	--	--	--	--	--	--	na	--	--	na	4.9E+03
N Nitrosodimethylamine ^c	0	--	--	na	8.1E+01	--	--	na	6.5E+02	--	--	--	--	--	--	--	na	--	--	na	6.5E+02
N Nitrosodiphenylamine ^c	0	--	--	na	1.6E+02	--	--	na	1.3E+03	--	--	--	--	--	--	--	na	--	--	na	1.3E+03
N Nitrosodi-n-propylamine ^c	0	--	--	na	1.4E+01	--	--	na	1.1E+02	--	--	--	--	--	--	--	na	--	--	na	1.1E+02
Parathion	0	6.5E-02	1.3E-02	na	--	9.1E-02	1.7E-02	na	--	--	--	--	--	--	--	--	na	9.1E-02	1.7E-02	na	--
PCB 1016	0	--	1.4E-02	na	--	--	1.8E-02	na	--	--	--	--	--	--	--	--	na	--	1.8E-02	na	--
PCB 1221	0	--	1.4E-02	na	--	--	1.8E-02	na	--	--	--	--	--	--	--	--	na	--	1.8E-02	na	--
PCB 1232	0	--	1.4E-02	na	--	--	1.8E-02	na	--	--	--	--	--	--	--	--	na	--	1.8E-02	na	--
PCB 1242	0	--	1.4E-02	na	--	--	1.8E-02	na	--	--	--	--	--	--	--	--	na	--	1.8E-02	na	--
PCB 1248	0	--	1.4E-02	na	--	--	1.8E-02	na	--	--	--	--	--	--	--	--	na	--	1.8E-02	na	--
PCB 1254	0	--	1.4E-02	na	--	--	1.8E-02	na	--	--	--	--	--	--	--	--	na	--	1.8E-02	na	--
PCB 1260	0	--	1.4E-02	na	--	--	1.8E-02	na	--	--	--	--	--	--	--	--	na	--	1.8E-02	na	--
PCB Total ^c	0	--	--	na	1.7E-03	--	--	na	1.4E-02	--	--	--	--	--	--	--	na	--	--	na	1.4E-02

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Pentachlorophenol ^c	0	1.3E-02	1.1E-02	na	8.2E+01	1.9E-02	1.5E-02	na	6.6E+02	---	---	---	---	---	---	---	---	1.9E-02	1.5E-02	na	6.6E+02
Phenol	0	---	---	na	4.6E+06	---	---	na	1.2E+07	---	---	---	---	---	---	---	---	---	---	na	1.2E+07
Pyrene	0	---	---	na	1.1E+04	---	---	na	2.9E+04	---	---	---	---	---	---	---	---	---	---	na	2.9E+04
Radionuclides (pCi/l except Beta/Photon)	0	---	---	na	---	---	---	na	---	---	---	---	---	---	---	---	---	---	---	na	---
Gross Alpha Activity (mrem/yr)	0	---	---	na	1.5E+01	---	---	na	3.9E+01	---	---	---	---	---	---	---	---	---	---	na	---
Beta and Photon Activity (mrem/yr)	0	---	---	na	4.0E+06	---	---	na	1.0E+01	---	---	---	---	---	---	---	---	---	---	na	1.0E+01
Strontium 90	0	---	---	na	8.0E+00	---	---	na	2.1E+01	---	---	---	---	---	---	---	---	---	---	na	2.1E+01
Tritium	0	---	---	na	2.0E+04	---	---	na	5.2E+04	---	---	---	---	---	---	---	---	---	---	na	5.2E+04
Selenium	0	2.0E+01	5.0E+00	na	1.1E+04	2.8E+01	6.5E+00	na	2.9E+04	---	---	---	---	---	---	---	---	2.8E+01	6.5E+00	na	2.9E+04
Silver	0	1.3E+00	---	na	---	1.8E+00	---	na	---	---	---	---	---	---	---	---	---	1.8E+00	---	na	---
Sulfate	0	---	---	na	---	---	---	na	---	---	---	---	---	---	---	---	---	---	---	na	---
1,1,2,2-Tetrachloroethane ^c	0	---	---	na	1.1E+02	---	---	na	8.8E+02	---	---	---	---	---	---	---	---	---	---	na	8.8E+02
Tetrachloroethylene ^c	0	---	---	na	8.9E+01	---	---	na	7.1E+02	---	---	---	---	---	---	---	---	---	---	na	7.1E+02
Thallium	0	---	---	na	6.3E+00	---	---	na	1.6E+01	---	---	---	---	---	---	---	---	---	---	na	1.6E+01
Toluene	0	---	---	na	2.0E+05	---	---	na	5.2E+05	---	---	---	---	---	---	---	---	---	---	na	5.2E+05
Total dissolved solids	0	---	---	na	---	---	---	na	---	---	---	---	---	---	---	---	---	---	---	na	---
Toxaphene ^c	0	7.3E-01	2.0E-04	na	7.5E-03	1.0E+00	2.6E-04	na	6.0E-02	---	---	---	---	---	---	---	---	1.0E+00	2.6E-04	na	6.0E-02
Tributyltin	0	4.6E-01	6.3E-02	na	---	6.4E-01	8.2E-02	na	---	---	---	---	---	---	---	---	---	6.4E-01	8.2E-02	na	---
1,2,4-Trichlorobenzene	0	---	---	na	9.4E+02	---	---	na	2.4E+03	---	---	---	---	---	---	---	---	---	---	na	2.4E+03
1,1,2-Trichloroethane ^c	0	---	---	na	4.2E+02	---	---	na	3.4E+03	---	---	---	---	---	---	---	---	---	---	na	3.4E+03
Trichloroethylene ^c	0	---	---	na	8.1E+02	---	---	na	6.5E+03	---	---	---	---	---	---	---	---	---	---	na	6.5E+03
2,4,6-Trichlorophenol ^c	0	---	---	na	6.5E+01	---	---	na	5.2E+02	---	---	---	---	---	---	---	---	---	---	na	5.2E+02
2-(2,4,5-Trichlorophenoxy) propionic acid (Sivex)	0	---	---	na	---	---	---	na	---	---	---	---	---	---	---	---	---	---	---	na	---
Vinyl Chloride ^c	0	---	---	na	6.1E+01	---	---	na	4.9E+02	---	---	---	---	---	---	---	---	---	---	na	4.9E+02
Zinc	0	7.3E+01	7.8E+01	na	6.9E+04	1.0E+02	1.0E+02	na	1.8E+05	---	---	---	---	---	---	---	---	1.0E+02	1.0E+02	na	1.8E+05

Notes

1. All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
2. Discharge flow is highest monthly average or Form 20 maximum for Industries and design flow for Municipals
3. Metals measured as Dissolved, unless specified otherwise
4. "C" indicates a carcinogenic parameter
5. Regular Wt.As are mass balances (minus background concentration) using the % of stream flow entered above under Mixing information. Antidegradation Wt.As are based upon a complete mix.
6. Antideg. Baseline = (0.25(WQC : background conc.) + background conc.) for acute and chronic
 * (0.1(WQC : background conc.) + background conc.) for human health
7. Wt.As established at the following stream flows: 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens, Harmonic Mean for Carcinogens, and Annual Average for Dioxin. Mixing ratios may be substituted for stream flows where appropriate.

Metal	Target Value (SSTV)
Antimony	1.1E+04
Arsenic	1.2E+02
Barium	na
Cadmium	6.0E-01
Chromium III	3.9E+01
Chromium VI	8.6E+00
Copper	4.4E+00
Iron	na
Lead	5.7E+00
Manganese	na
Mercury	1.3E-01
Nickel	1.0E+01
Selenium	3.9E+00
Silver	7.4E-01
Zinc	4.1E+01

Note: do not use Q1's lower than the minimum Q1's provided in agency guidance

This form prepared and certified by Jeffrey McCune Porter for Twin Oaks Community STP

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Daily Effluent pH

Covering one year: 6/1/2008 to 5/31/2009

Day of Month	2008							2009				
	6	7	8	9	10	11	12	1	2	3	4	5
1	7.16	7.13	7.21	7.46	7.46	7.67	7.85	7.83	7.40	7.26	7.41	7.62
2	7.27	7.38	7.44	7.24	7.34	7.72	7.87	7.65	7.66	7.06	6.68	7.09
3	7.23	7.43	7.33	7.42	7.82	8.04	7.48	7.76	7.40	7.47	7.42	7.15
4	7.28	7.65	7.52	7.51	7.71	7.48	7.61	7.27	7.34	7.18	8.07	7.54
5	7.03	7.36	7.08	7.18	7.67	7.27	7.68	7.80	7.10	7.14	6.84	7.45
6	7.16	7.30	7.46	7.38	7.95	7.35	7.75	7.85	7.31	7.08	9.16	7.31
7	7.14	7.16	7.26	7.43	7.78	7.71	7.47	7.29	7.23	7.57	8.02	7.31
8	7.21	7.52	7.22	7.27	7.55	7.80	7.98	7.87	7.23	7.21	7.86	7.65
9	7.32	7.00	7.36	7.23	7.44	7.24	7.87	7.47	7.07	6.95	7.86	7.55
10	7.18	7.35	7.34	7.37	7.15	7.67	7.39	7.40	7.40	7.32	8.18	7.58
11	7.04	7.27	7.37	7.56	8.03	7.96	7.29	7.44	7.27	7.08	7.43	7.25
12	7.58	7.09	7.17	7.39	7.58	7.52	7.50	7.47	7.14	7.01	7.44	7.77
13	7.21	7.40	7.40	7.15	8.00	7.22	8.04	7.65	7.19	7.38	7.88	7.27
14	6.97	7.37	7.08	7.41	7.97	7.51	7.55	7.49	7.16	7.49	8.81	7.57
15	7.31	6.98	7.45	7.09	7.57	7.95	8.06	7.55	7.32	6.98	7.69	7.67
16	7.32	7.36	7.42	7.37	7.37	7.65	7.77	7.41	7.10	6.98	7.65	7.25
17	7.00	7.19	7.44	7.50	7.61	7.97	7.42	7.47	7.14	7.40	7.38	7.38
18	7.16	7.52	6.87	7.44	8.06	7.95	7.60	7.22	7.05	6.90	8.15	7.41
19	7.14	7.13	7.27	7.63	7.92	7.54	7.82	7.73	7.23	7.18	7.57	7.31
20	6.94	7.10	7.33	7.31	8.19	7.71	7.92	7.43	7.31	7.12	6.48	7.53
21	7.10	7.40	7.60	7.30	7.71	7.79	7.46	7.43	7.54	7.27	9.07	7.49
22	6.98	7.27	7.11	7.35	8.28	8.03	7.74	7.41	7.45	7.10	7.92	7.29
23	7.08	7.37	7.19	7.29	7.90	7.68	7.55	7.30	7.23	6.88	8.09	7.42
24	7.11	7.32	7.52	7.96	7.82	7.45	7.34	7.10	7.00	7.15	7.65	7.29
25	6.90	7.39	7.44	7.71	7.49	8.06	7.63	7.41	7.10	6.94	9.57	7.11
26	7.26	7.28	7.24	7.31	7.60	7.55	7.63	7.81	7.27	7.17	7.89	7.38
27	7.11	7.18	7.42	7.46	7.86	7.53	8.06	7.46	7.16	7.07	7.49	7.42
28	7.30	7.05	7.15	7.50	7.91	7.61	7.70	7.11	7.26	6.97	7.53	7.65
29	7.02	7.40	7.29	7.22	7.58	8.17	7.93	7.45		7.32	7.67	7.40
30	7.04	7.19	7.40	7.42	8.11	7.29	7.77	7.35		7.19	6.71	7.22
31		7.24	7.27		7.42		7.60	7.44		7.40		7.40

Mixing Zone Predictions for

Twin Oaks STP

Effluent Flow = 0.01 MGD
Stream 7Q10 = 0.004 MGD
Stream 30Q10 = 0.009 MGD
Stream 1Q10 = 0.003 MGD
Stream slope = 0.005 ft/ft
Stream width = 3 ft
Bottom scale = 3
Channel scale = 1

Mixing Zone Predictions @ 7Q10

Depth = .054 ft
Length = 95.52 ft
Velocity = .1337 ft/sec
Residence Time = .0083 days

Recommendation:

A complete mix assumption is appropriate for this situation and the entire 7Q10 may be used.

Mixing Zone Predictions @ 30Q10

Depth = .0651 ft
Length = 81.44 ft
Velocity = .1506 ft/sec
Residence Time = .0063 days

Recommendation:

A complete mix assumption is appropriate for this situation and the entire 30Q10 may be used.

Mixing Zone Predictions @ 1Q10

Depth = .0516 ft
Length = 99.28 ft
Velocity = .1299 ft/sec
Residence Time = .2123 hours

Recommendation:

A complete mix assumption is appropriate for this situation and the entire 1Q10 may be used.

7/7/2009 4:20:53 PM

Facility = Twin Oaks Community STP

Chemical = Ammonia (Nov-Apr)

Chronic averaging period = 30

WLAa = 350

WLAc = 71

Q.L. = .2

samples/mo. = 1

samples/wk. = 1

Summary of Statistics:

observations = 1

Expected Value = 9

Variance = 29.16

C.V. = 0.6

97th percentile daily values = 21.9007

97th percentile 4 day average = 14.9741

97th percentile 30 day average = 10.8544

< Q.L. = 0

Model used = BPJ Assumptions, type 2 data

No Limit is required for this material

The data are:

7/7/2009 4:19:43 PM

Facility = Twin Oaks Community STP

Chemical = Ammonia (May-Oct)

Chronic averaging period = 30

WLAa = 82

WLAc = 13

Q.L. = .2

samples/mo. = 1

samples/wk. = 1

Summary of Statistics:

observations = 1

Expected Value = 9

Variance = 29.16

C.V. = 0.6

97th percentile daily values = 21.9007

97th percentile 4 day average = 14.9741

97th percentile 30 day average = 10.8544

< Q.L. = 0

Model used = BPJ Assumptions, type 2 data

No Limit is required for this material

The data are:

7/7/2009 4:28:14 PM

Facility = Twin Oaks Community STP

Chemical = TRC

Chronic averaging period = 30

WLAa = 27

WLAc = 14

Q.L. = 100

samples/mo. = 30

samples/wk. = 8

Summary of Statistics:

observations = 1

Expected Value = 200

Variance = 14400

C.V. = 0.6

97th percentile daily values = 486.683

97th percentile 4 day average = 332.758

97th percentile 30 day average = 241.210

< Q.L. = 0

Model used = BPJ Assumptions, type 2 data

A limit is needed based on Acute Toxicity

Maximum Daily Limit = 27

Average Weekly limit = 16.10563731936

Average Monthly Limit = 13.3817714244273

0.016 mg/L
0.014 mg/L

The data are:

200

DATA FILE SUMMARY

THE NAME OF THE DATA FILE IS: TWINOSTP.MOD

THE STREAM NAME IS: POLECAT CREEK
THE RIVER BASIN IS: YORK
THE SECTION NUMBER IS: 3
THE CLASSIFICATION IS: III

TANDARDS VIOLATED (Y/N) = N
TANDARDS APPROPRIATE (Y/N) = Y

ISCHARGE WITHIN 3 MILES (Y/N) = N

THE DISCHARGE BEING MODELED IS: TWIN OAKS COMMUNITY STP

PROPOSED LIMITS ARE:

FLOW = .01 MGD
BOD5 = 20 MG/L
TKN = 7 MG/L
D.O. = 6 MG/L

THE NUMBER OF SEGMENTS TO BE MODELED = 1

Q10 WILL BE CALCULATED BY: DRAINAGE AREA COMPARISON
THE GAUGE NAME IS: CONTRARY CREEK NEAR MINERAL
GAUGE DRAINAGE AREA = 5.53 SQ.MI.
GAUGE 7Q10 = .0323 MGD
DRAINAGE AREA AT DISCHARGE = .57 SQ.MI.

TREAM A DRY DITCH AT DISCHARGE (Y/N) = N
NTIDEGRADATION APPLIES (Y/N) = N

LOCATION DESIGN TEMPERATURE = 25 °C

SEGMENT INFORMATION

SEGMENT #

SEGMENT ENDS BECAUSE: THE MODEL ENDS

SEGMENT LENGTH = .5 MI

SEGMENT WIDTH = 3 FT

SEGMENT DEPTH = .08 FT

SEGMENT VELOCITY = .1 FT/SEC

RAINAGE AREA AT SEGMENT START = .57 SQ.MI.

RAINAGE AREA AT SEGMENT END = .75 SQ.MI.

ELEVATION AT UPSTREAM END = 290 FT

ELEVATION AT DOWNSTREAM END = 275 FT

THE CROSS SECTION IS: IRREGULAR

THE CHANNEL IS: MODERATELY MEANDERING

POOLS AND RIFFLES (Y/N) = Y

THE SEGMENT LENGTH IS 20 % POOLS

POOL DEPTH = .2 FT

THE SEGMENT LENGTH IS 80 % RIFFLES

RIFFLE DEPTH = .04 FT

THE BOTTOM TYPE = GRAVEL

SLUDGE DEPOSITS = NONE

AQUATIC PLANTS = NONE

ALGAE OBSERVED = NONE

WATER COLORED GREEN (Y/N) = N

REGIONAL MODELING SYSTEM Ver 3.2 (OWRM - 9/90)

5-17-1994 16:06:01

REGIONAL MODELING SYSTEM VERSION 3.2

MODEL SIMULATION FOR THE TWIN OAKS COMMUNITY STP DISCHARGE
TO POLECAT CREEK

THE SIMULATION STARTS AT THE TWIN OAKS COMMUNITY STP DISCHARGE

***** PROPOSED PERMIT LIMITS *****

LOW = .01 MGD cBOD5 = 20 Mg/L TKN = 7 Mg/L D.O. = 6 Mg/L

*** THE MAXIMUM CHLORINE ALLOWABLE IN THE DISCHARGE IS 0.015 Mg/L ***

THE SECTION BEING MODELED IS 1 SEGMENT LONG
RESULTS WILL BE GIVEN AT 0.1 MILE INTERVALS

***** BACKGROUND CONDITIONS *****

THE 7Q10 STREAM FLOW AT THE DISCHARGE IS 0.00333 MGD
THE DISSOLVED OXYGEN OF THE STREAM IS 7.427 Mg/L
THE BACKGROUND cBOD_u OF THE STREAM IS 5 Mg/L
THE BACKGROUND nBOD OF THE STREAM IS 0 Mg/L

***** MODEL PARAMETERS *****

SEG.	LEN. Mi	VEL. F/S	K2 1/D	K1 1/D	KN 1/D	BENTHIC Mg/L	ELEV. Ft	TEMP. °C	DO-SAT Mg/L
1	0.50	0.145	18.000	1.200	0.400	0.000	282.50	25.00	8.253

The K Rates shown are at 20°C ... the model corrects them for temperature.)

TOTAL STREAMFLOW = 33 MGD
(Including Discharge)

DISTANCE FROM HEAD OF SEGMENT (MI.)	TOTAL DISTANCE FROM MODEL BEGINNING (MI.)	DISSOLVED OXYGEN (Mg/L)	cBODu (Mg/L)	nBODu (Mg/L)
0.000	0.000	6.357	38.760	12.994
0.100	0.100	5.631	35.363	12.675
0.200	0.200	5.428	34.115	12.364
0.300	0.300	5.440	32.005	12.061
0.400	0.400	5.537	30.026	11.764
0.500	0.500	5.665	28.170	11.476

REGIONAL MODELING SYSTEM Ver 3.2 (OWRM - 9/90)
5-17-1994 16:05:45

DATA FILE = TWINOSTP.MOD

REGIONAL MODELING SYSTEM

VERSION 3.2

DATA FILE SUMMARY

THE NAME OF THE DATA FILE IS: REVTWIN.MOD

THE STREAM NAME IS: Polecat Creek
THE RIVER BASIN IS: York
THE SECTION NUMBER IS: 3
THE CLASSIFICATION IS: III

STANDARDS VIOLATED (Y/N) = N
STANDARDS APPROPRIATE (Y/N) = Y

DISCHARGE WITHIN 3 MILES (Y/N) = N

THE DISCHARGE BEING MODELED IS: Twin Oaks STP

PROPOSED LIMITS ARE:

FLOW = .01 MGD
BOD5 = 25 MG/L
TKN = 20 MG/L
D.O. = 6 MG/L

THE NUMBER OF SEGMENTS TO BE MODELED = 1

7Q10 WILL BE CALCULATED BY: DRAINAGE AREA COMPARISON

THE GAUGE NAME IS: Contrary Creek near Mineral
GAUGE DRAINAGE AREA = 5.53 SQ.MI.
GAUGE 7Q10 = .97 MGD
DRAINAGE AREA AT DISCHARGE = .57 SQ.MI.

STREAM A DRY DITCH AT DISCHARGE (Y/N) = N
ANTIDEGRADATION APPLIES (Y/N) = N

ALLOCATION DESIGN TEMPERATURE = 15 °C

NET SEASON

SEGMENT INFORMATION

SEGMENT # 1

SEGMENT ENDS BECAUSE: THE MODEL ENDS

SEGMENT LENGTH = .5 MI

SEGMENT WIDTH = 3 FT

SEGMENT DEPTH = .08 FT

SEGMENT VELOCITY = .1 FT/SEC

DRAINAGE AREA AT SEGMENT START = .57 SQ.MI.

DRAINAGE AREA AT SEGMENT END = .75 SQ.MI.

ELEVATION AT UPSTREAM END = 290 FT

ELEVATION AT DOWNSTREAM END = 275 FT

THE CROSS SECTION IS: IRREGULAR

THE CHANNEL IS: MODERATELY MEANDERING

POOLS AND RIFFLES (Y/N) = Y

THE SEGMENT LENGTH IS 20 % POOLS

POOL DEPTH = .2 FT

THE SEGMENT LENGTH IS 80 % RIFFLES

RIFFLE DEPTH = .04 FT

THE BOTTOM TYPE = GRAVEL

SLUDGE DEPOSITS = NONE

AQUATIC PLANTS = NONE

ALGAE OBSERVED = NONE

WATER COLORED GREEN (Y/N) = N

REGIONAL MODELING SYSTEM Ver 3.2 (OWRM - 9/90)

05-13-1999 11:34:55

SEGMENT INFORMATION

SEGMENT # 1

SEGMENT ENDS BECAUSE: THE MODEL ENDS

SEGMENT LENGTH = .5 MI

SEGMENT WIDTH = 3 FT

SEGMENT DEPTH = .08 FT

SEGMENT VELOCITY = .1 FT/SEC

DRAINAGE AREA AT SEGMENT START = .57 SQ.MI.

DRAINAGE AREA AT SEGMENT END = .75 SQ.MI.

ELEVATION AT UPSTREAM END = 290 FT

ELEVATION AT DOWNSTREAM END = 275 FT

THE CROSS SECTION IS: IRREGULAR

THE CHANNEL IS: MODERATELY MEANDERING

POOLS AND RIFFLES (Y/N) = Y

THE SEGMENT LENGTH IS 20 % POOLS

POOL DEPTH = .2 FT

THE SEGMENT LENGTH IS 80 % RIFFLES

RIFFLE DEPTH = .04 FT

THE BOTTOM TYPE = GRAVEL

SLUDGE DEPOSITS = NONE

AQUATIC PLANTS = NONE

ALGAE OBSERVED = NONE

WATER COLORED GREEN (Y/N) = N

REGIONAL MODELING SYSTEM

Ver 3.2 (OWRM - 9/90)

05-11-1999 08:30:45

REGIONAL MODELING SYSTEM VERSION 3.2

MODEL SIMULATION FOR THE Twin Oaks STP DISCHARGE

TO Polecat Creek

COMMENT: wet season

THE SIMULATION STARTS AT THE Twin Oaks STP DISCHARGE

***** PROPOSED PERMIT LIMITS *****

FLOW = .01 MGD cBOD5 = 25 Mg/L TKN = 20 Mg/L D.O. = 6 Mg/L

**** THE MAXIMUM CHLORINE ALLOWABLE IN THE DISCHARGE IS 0.121 Mg/L ****

THE SECTION BEING MODELED IS 1 SEGMENT LONG
RESULTS WILL BE GIVEN AT 0.1 MILE INTERVALS

***** BACKGROUND CONDITIONS *****

THE 7Q10 STREAM FLOW AT THE DISCHARGE IS 0.09998 MGD
THE DISSOLVED OXYGEN OF THE STREAM IS 8.965 Mg/L
THE BACKGROUND cBODu OF THE STREAM IS 5 Mg/L
THE BACKGROUND nBOD OF THE STREAM IS 0 Mg/L

***** MODEL PARAMETERS *****

SEG.	LEN. Mi	VEL. F/S	K2 1/D	K1 1/D	KN 1/D	BENTHIC Mg/L	ELEV. Ft	TEMP. °C	DO-SAT Mg/L
----	-----	-----	-----	-----	-----	-----	-----	-----	-----
1	0.50	0.145	18.000	1.000	0.350	0.000	282.50	15.00	9.961

(The K Rates shown are at 20°C ... the model corrects them for temperature.)

TOTAL STREAMFLOW = 0.1100 MGD
(Including Discharge)

DISTANCE FROM HEAD OF SEGMENT (MI.)	TOTAL DISTANCE FROM MODEL BEGINNING (MI.)	DISSOLVED OXYGEN (Mg/L)	cBODu (Mg/L)	nBODu (Mg/L)
-----	-----	-----	-----	-----
0.000	0.000	8.696	10.228	6.693
0.100	0.100	8.965	9.890	6.626
0.200	0.200	8.965	9.563	6.559
0.300	0.300	8.965	9.247	6.494
0.400	0.400	8.965	8.942	6.429
0.500	0.500	8.965	8.646	6.364

REGIONAL MODELING SYSTEM Ver 3.2 (OWRM - 9/90)
05-11-1999 08:30:42

DATA FILE = REVTWIN.MOD

Public Notice – Environmental Permit

PURPOSE OF NOTICE: To seek public comment on a draft permit from the Department of Environmental Quality that will allow the release of treated wastewater into a water body in Louisa County, Virginia.

PUBLIC COMMENT PERIOD: September 18, 2009 to 5:00 p.m. on October 19, 2009

PERMIT NAME: Virginia Pollutant Discharge Elimination System Permit – Twin Oaks Community Sewage Treatment Plant (Wastewater) issued by DEQ, under the authority of the State Water Control Board

APPLICANT NAME, ADDRESS AND PERMIT NUMBER: Twin Oaks Community, 138 Twin Oaks Road, Louisa, VA 23093 – VPDES Permit VA0088421

NAME AND ADDRESS OF FACILITY: Twin Oaks Community, 138 Twin Oaks Road, Louisa, VA 23093

PROJECT DESCRIPTION: The Twin Oaks Community has applied for a reissuance of a permit for the private Twin Oaks Community Sewage Treatment Plant. The applicant proposes to release treated sewage wastewaters from a residential community at a rate of 0.01 million gallons per day into a water body. Sludge from the treatment process will be dried, stored onsite, and disposed of in the Louisa County Landfill or sent to the Louisa Regional WWTP for disposal. The facility proposes to release the treated sewage into Polecat Creek in Louisa County, which is located in the South Anna River/Roundabout Creek watershed. A watershed is the land area drained by a river and its incoming streams. The permit will limit the following pollutants to amounts that protect water quality: cBOD₅, Total Dissolved Solids, Ammonia as Nitrogen, pH, Dissolved Oxygen, Total Residual Chlorine, and *E. Coli*.

HOW TO COMMENT AND/OR REQUEST A PUBLIC HEARING: DEQ accepts comments and requests for public hearing by e-mail, fax or postal mail. All comments and requests must be in writing and be received by DEQ during the comment period. Submittals must include the names, mailing addresses and telephone numbers of the commenter/requester and of all persons represented by the commenter/requester. A request for public hearing must also include: 1) The reason why a public hearing is requested. 2) A brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requestor, including how and to what extent such interest would be directly and adversely affected by the permit. 3) Specific references, where possible, to terms and conditions of the permit with suggested revisions. DEQ may hold a public hearing, including another comment period, if public response is significant and there are substantial, disputed issues relevant to the permit.

CONTACT FOR PUBLIC COMMENTS, DOCUMENT REQUESTS AND ADDITIONAL INFORMATION: The public may review the documents at the DEQ-Northern Regional Office by appointment.

Name: Anna Tuthill Westernik

Address: DEQ-Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193

Phone: (703) 583-3837 E-mail: anna.westernik@deq.virginia.gov Fax: (703) 583-3821

***State "Transmittal Checklist" to Assist in Targeting
Municipal and Industrial Individual NPDES Draft Permits for Review***

Part I. State Draft Permit Submission Checklist

In accordance with the MOA established between the Commonwealth of Virginia and the United States Environmental Protection Agency, Region III, the Commonwealth submits the following draft National Pollutant Discharge Elimination System (NPDES) permit for Agency review and concurrence.

Facility Name:	The Twin Oaks Community STP
NPDES Permit Number:	VA00088421
Permit Writer Name:	Anna Westernik
Date:	July 20, 2009

Major []**Minor [X]****Industrial []****Municipal [x]****I.A. Draft Permit Package Submittal Includes:**

	Yes	No	N/A
1. Permit Application?	x		
2. Complete Draft Permit (for renewal or first time permit – entire permit, including boilerplate information)?	x		
3. Copy of Public Notice?	x		
4. Complete Fact Sheet?	x		
5. A Priority Pollutant Screening to determine parameters of concern?	x		
6. A Reasonable Potential analysis showing calculated WQBELs?	x		
7. Dissolved Oxygen calculations?	x		
8. Whole Effluent Toxicity Test summary and analysis?		x	
9. Permit Rating Sheet for new or modified industrial facilities?		x	

I.B. Permit/Facility Characteristics

	Yes	No	N/A
1. Is this a new, or currently unpermitted facility?		x	
2. Are all permissible outfalls (including combined sewer overflow points, non-process water and storm water) from the facility properly identified and authorized in the permit?	x		
3. Does the fact sheet or permit contain a description of the wastewater treatment process?	x		
4. Does the review of PCS/DMR data for at least the last 3 years indicate significant non-compliance with the existing permit?	x		
5. Has there been any change in streamflow characteristics since the last permit was developed?		x	
6. Does the permit allow the discharge of new or increased loadings of any pollutants?		x	
7. Does the fact sheet or permit provide a description of the receiving water body(s) to which the facility discharges, including information on low/critical flow conditions and designated/existing uses?	x		
8. Does the facility discharge to a 303(d) listed water?	x		
a. Has a TMDL been developed and approved by EPA for the impaired water?		x	
b. Does the record indicate that the TMDL development is on the State priority list and will most likely be developed within the life of the permit?		x	
c. Does the facility discharge a pollutant of concern identified in the TMDL or 303(d) listed water?	x		
9. Have any limits been removed, or are any limits less stringent, than those in the current permit?		x	
10. Does the permit authorize discharges of storm water?		x	

I.B. Permit/Facility Characteristics – cont.	Yes	No	N/A
11. Has the facility substantially enlarged or altered its operation or substantially increased its flow or production?		x	
12. Are there any production-based, technology-based effluent limits in the permit?		x	
13. Do any water quality-based effluent limit calculations differ from the State's standard policies or procedures?		x	
14. Are any WQBELs based on an interpretation of narrative criteria?		x	
15. Does the permit incorporate any variances or other exceptions to the State's standards or regulations?		x	
16. Does the permit contain a compliance schedule for any limit or condition?	x		
17. Is there a potential impact to endangered/threatened species or their habitat by the facility's discharge(s)?		x	
18. Have impacts from the discharge(s) at downstream potable water supplies been evaluated?	x		
19. Is there any indication that there is significant public interest in the permit action proposed for this facility?		x	
20. Have previous permit, application, and fact sheet been examined?	x		

Part II. NPDES Draft Permit Checklist

Region III NPDES Permit Quality Checklist – for POTWs* (To be completed and included in the record only for POTWs)

II.A. Permit Cover Page/Administration	Yes	No	N/A
1. Does the fact sheet or permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)?	x		
2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?	x		

II.B. Effluent Limits – General Elements	Yes	No	N/A
1. Does the fact sheet describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?	x		
2. Does the fact sheet discuss whether “antibacksliding” provisions were met for any limits that are less stringent than those in the previous NPDES permit?	x		

II.C. Technology-Based Effluent Limits (POTWs)	Yes	No	N/A
1. Does the permit contain numeric limits for <u>ALL</u> of the following: BOD (or alternative, e.g., CBOD, COD, TOC), TSS, and pH?	x		
2. Does the permit require at least 85% removal for BOD (or BOD alternative) and TSS (or 65% for equivalent to secondary) consistent with 40 CFR Part 133?	x		
a. If no, does the record indicate that application of WQBELs, or some other means, results in more stringent requirements than 85% removal or that an exception consistent with 40 CFR 133.103 has been approved?			x
3. Are technology-based permit limits expressed in the appropriate units of measure (e.g., concentration, mass, SU)?	x		
4. Are permit limits for BOD and TSS expressed in terms of both long term (e.g., average monthly) and short term (e.g., average weekly) limits?	x		
5. Are any concentration limitations in the permit less stringent than the secondary treatment requirements (30 mg/l BOD5 and TSS for a 30-day average and 45 mg/l BOD5 and TSS for a 7-day average)?		x	
a. If yes, does the record provide a justification (e.g., waste stabilization pond, trickling filter, etc.) for the alternate limitations?			x

II.D. Water Quality-Based Effluent Limits	Yes	No	N/A
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering State narrative and numeric criteria for water quality?	x		
2. Does the fact sheet indicate that any WQBELs were derived from a completed and EPA approved TMDL?	x		
3. Does the fact sheet provide effluent characteristics for each outfall?	x		
4. Does the fact sheet document that a “reasonable potential” evaluation was performed?	x		
a. If yes, does the fact sheet indicate that the “reasonable potential” evaluation was performed in accordance with the State’s approved procedures?	x		
b. Does the fact sheet describe the basis for allowing or disallowing in-stream dilution or a mixing zone?	x		
c. Does the fact sheet present WLA calculation procedures for all pollutants that were found to have “reasonable potential”?	x		
d. Does the fact sheet indicate that the “reasonable potential” and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations)?		x	
e. Does the permit contain numeric effluent limits for all pollutants for which “reasonable potential” was determined?	x		

II.D. Water Quality-Based Effluent Limits – cont.	Yes	No	N/A
5. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the fact sheet?	x		
6. For all final WQBELs, are BOTH long-term AND short-term effluent limits established?	x		
7. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)?	x		
8. Does the record indicate that an “antidegradation” review was performed in accordance with the State’s approved antidegradation policy?	x		

II.E. Monitoring and Reporting Requirements	Yes	No	N/A
1. Does the permit require at least annual monitoring for all limited parameters and other monitoring as required by State and Federal regulations?	x		
a. If no, does the fact sheet indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate this waiver?			
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?	x		
3. Does the permit require at least annual influent monitoring for BOD (or BOD alternative) and TSS to assess compliance with applicable percent removal requirements?		x	
4. Does the permit require testing for Whole Effluent Toxicity?		x	

II.F. Special Conditions	Yes	No	N/A
1. Does the permit include appropriate biosolids use/disposal requirements?	x		
2. Does the permit include appropriate storm water program requirements?			x

II.F. Special Conditions – cont.	Yes	No	N/A
3. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?			x
4. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?			x
5. Does the permit allow/authorize discharge of sanitary sewage from points other than the POTW outfall(s) or CSO outfalls [i.e., Sanitary Sewer Overflows (SSOs) or treatment plant bypasses]?		x	
6. Does the permit authorize discharges from Combined Sewer Overflows (CSOs)?		x	
a. Does the permit require implementation of the “Nine Minimum Controls”?			x
b. Does the permit require development and implementation of a “Long Term Control Plan”?			x
c. Does the permit require monitoring and reporting for CSO events?			x
7. Does the permit include appropriate Pretreatment Program requirements?			x

II.G. Standard Conditions	Yes	No	N/A
1. Does the permit contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions?	x		
List of Standard Conditions – 40 CFR 122.41			
Duty to comply	Property rights	Reporting Requirements	
Duty to reapply	Duty to provide information	Planned change	
Need to halt or reduce activity	Inspections and entry	Anticipated noncompliance	
not a defense	Monitoring and records	Transfers	
Duty to mitigate	Signatory requirement	Monitoring reports	
Proper O & M	Bypass	Compliance schedules	
Permit actions	Upset	24-Hour reporting	
		Other non-compliance	
2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for POTWs regarding notification of new introduction of pollutants and new industrial users [40 CFR 122.42(b)]?			

* Facility is a PVOTW and a municipal.

Part II. NPDES Draft Permit Checklist

Region III NPDES Permit Quality Review Checklist – For Non-Municipals (To be completed and included in the record for all non-POTWs)

II.A. Permit Cover Page/Administration	Yes	No	N/A
1. Does the fact sheet or permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)?			
2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?			

II.B. Effluent Limits – General Elements	Yes	No	N/A
1. Does the fact sheet describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?			
2. Does the fact sheet discuss whether “antibacksliding” provisions were met for any limits that are less stringent than those in the previous NPDES permit?			

II.C. Technology-Based Effluent Limits (Effluent Guidelines & BPJ)	Yes	No	N/A
1. Is the facility subject to a national effluent limitations guideline (ELG)?			
a. If yes, does the record adequately document the categorization process, including an evaluation of whether the facility is a new source or an existing source?			
b. If no, does the record indicate that a technology-based analysis based on Best Professional Judgement (BPJ) was used for all pollutants of concern discharged at treatable concentrations?			
2. For all limits developed based on BPJ, does the record indicate that the limits are consistent with the criteria established at 40 CFR 125.3(d)?			
3. Does the fact sheet adequately document the calculations used to develop both ELG and /or BPJ technology-based effluent limits?			
4. For all limits that are based on production or flow, does the record indicate that the calculations are based on a “reasonable measure of ACTUAL production” for the facility (not design)?			
5. Does the permit contain “tiered” limits that reflect projected increases in production or flow?			
a. If yes, does the permit require the facility to notify the permitting authority when alternate levels of production or flow are attained?			
6. Are technology-based permit limits expressed in appropriate units of measure (e.g., concentration, mass, SU)?			
7. Are all technology-based limits expressed in terms of both maximum daily, weekly average, and/or monthly average limits?			
8. Are any final limits less stringent than required by applicable effluent limitations guidelines or BPJ?			

II.D. Water Quality-Based Effluent Limits	Yes	No	N/A
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering State narrative and numeric criteria for water quality?			
2. Does the record indicate that any WQBELs were derived from a completed and EPA approved TMDL?			
3. Does the fact sheet provide effluent characteristics for each outfall?			
4. Does the fact sheet document that a “reasonable potential” evaluation was performed?			
a. If yes, does the fact sheet indicate that the “reasonable potential” evaluation was performed in accordance with the State’s approved procedures?			
b. Does the fact sheet describe the basis for allowing or disallowing in-stream dilution or a mixing zone?			

II.D. Water Quality-Based Effluent Limits – cont.	Yes	No	N/A
c. Does the fact sheet present WLA calculation procedures for all pollutants that were found to have “reasonable potential”?			
d. Does the fact sheet indicate that the “reasonable potential” and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations where data are available)?			
e. Does the permit contain numeric effluent limits for all pollutants for which “reasonable potential” was determined?			
5. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the fact sheet?			
6. For all final WQBELs, are BOTH long-term (e.g., average monthly) AND short-term (e.g., maximum daily, weekly average, instantaneous) effluent limits established?			
7. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)?			
8. Does the fact sheet indicate that an “antidegradation” review was performed in accordance with the State’s approved antidegradation policy?			

II.E. Monitoring and Reporting Requirements	Yes	No	N/A
1. Does the permit require at least annual monitoring for all limited parameters?			
a. If no, does the fact sheet indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate this waiver?			
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?			
3. Does the permit require testing for Whole Effluent Toxicity in accordance with the State’s standard practices?			

II.F. Special Conditions	Yes	No	N/A
1. Does the permit require development and implementation of a Best Management Practices (BMP) plan or site-specific BMPs?			
a. If yes, does the permit adequately incorporate and require compliance with the BMPs?			
2. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?			
3. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?			

II.G. Standard Conditions	Yes	No	N/A																																
1. Does the permit contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions?																																			
<table border="0"> <tr> <td colspan="2">List of Standard Conditions – 40 CFR 122.41</td><td colspan="2">Reporting Requirements</td></tr> <tr> <td>Duty to comply</td><td>Property rights</td><td colspan="2">Planned change</td></tr> <tr> <td>Duty to reapply</td><td>Duty to provide information</td><td colspan="2">Anticipated noncompliance</td></tr> <tr> <td>Need to halt or reduce activity</td><td>Inspections and entry</td><td colspan="2">Transfers</td></tr> <tr> <td>not a defense</td><td>Monitoring and records</td><td colspan="2">Monitoring reports</td></tr> <tr> <td>Duty to mitigate</td><td>Signatory requirement</td><td colspan="2">Compliance schedules</td></tr> <tr> <td>Proper O & M</td><td>Bypass</td><td colspan="2">24-Hour reporting</td></tr> <tr> <td>Permit actions</td><td>Upset</td><td colspan="2">Other non-compliance</td></tr> </table>				List of Standard Conditions – 40 CFR 122.41		Reporting Requirements		Duty to comply	Property rights	Planned change		Duty to reapply	Duty to provide information	Anticipated noncompliance		Need to halt or reduce activity	Inspections and entry	Transfers		not a defense	Monitoring and records	Monitoring reports		Duty to mitigate	Signatory requirement	Compliance schedules		Proper O & M	Bypass	24-Hour reporting		Permit actions	Upset	Other non-compliance	
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Permit actions	Upset	Other non-compliance																																	
2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for existing non-municipal dischargers regarding pollutant notification levels [40 CFR 122.42(a)]?																																			

Part III. Signature Page

Based on a review of the data and other information submitted by the permit applicant, and the draft permit and other administrative records generated by the Department/Division and/or made available to the Department/Division, the information provided on this checklist is accurate and complete, to the best of my knowledge.

Name	<u>Anna Westernik</u>
Title	<u>Environmental Specialist II</u>
Signature	<u><i>A. Westernik</i></u>
Date	<u>July 20, 2009</u>